AMENDMENTS TO THE SPECIFICATION

Please replace the first full paragraph beginning on page 3, with the following amended paragraph:

A signal obtained by adding the torque command signal T_{RFA} of the output of the speed controller 11 and the output signal T_{RFL} of the electric motor acceleration torque controller 25 is set to be a torque command T_{RFM} to carry out the torque control of the electric motor. For the load torque ~~T~~T_{L1} to be the disturbance of the acceleration torque of the electric motor, consequently, the control is carried out in a canceling direction through the torque command compensating signal T_{RFL} of the output of the electric motor acceleration torque controller 25. As a result, the electric motor torque command signal acts in such a direction as to cancel the disturbance torque of the electric motor which is generated by the torsion of the driving shaft during an acceleration or the sudden change of a load so that a torsional vibration is suppressed.

Please replace the paragraph beginning on page 4 and continuing to page 5, with the following amended paragraph:

In order to achieve the object, the invention according to claim 1 is directed to a torsional vibration suppressing control method in an electric motor speed control system constituted by a mechanism for transmitting a driving torque from an electric motor to a load through a driving shaft which is provided on the load side of the electric motor and has a low torsional rigidity, and a control device for feeding back an electric motor mean speed N_{MAVG} obtained by a calculation for a mean value every constant cycle for an electric motor speed detection signal detected by a speed detector for a speed command N_{REF} and calculating a deviation signal, and controlling a current of the electric motor in order to have an electric motor torque in accordance with a torque

command signal T_{RFA} obtained by amplifying the deviation signal by means of a speed controller having a proportional gain and an integrator or only the proportional gain, wherein a signal obtained by multiplying a signal acquired by differentiating the electric motor mean speed signal N_{MAVG} by an inertia time constant τ_M of the electric motor portion is input as an electric motor acceleration torque signal T_{MAFB} to an inertia controller with respect to the torque command signal T_{RFA} output from the speed controller, and the inertia controller multiplies the electric motor acceleration torque T_{MAFB} by the proportional gain and then outputs a value thus obtained as an inertia control signal T_{MJC} through a second-order or first-order low-pass filter and a second-order or first-order high-pass filter, feeds back the electric motor acceleration torque signal T_{MAFB} to an electric motor acceleration torque command T_{RFAX} obtained by decreasing the inertia control signal T_{MJC} from the torque command signal T_{RFA} output from the speed controller, and controls a current of the electric motor in order to have an electric motor torque in accordance with a signal T_{RFM} obtained by adding, to the acceleration torque command T_{RFAX}, a torque compensation signal T_{RFL} acquired by amplifying a signal of a deviation thereof by means of an electric motor acceleration torque controller constituted by the proportional gain and the integrator, thereby carrying out a control in order to cancel an electric motor load torque in response to the torque compensation signal T_{RFL} calculated and output in such a manner that ~~the torque command signal T_{RFA} output from the speed controller~~the electric motor acceleration torque command T_{RFAX} and the electric motor acceleration torque feedback signal T_{MAFB} are coincident with each other and equivalently enlarging and controlling an inertia of the electric motor portion.

Please replace the paragraph bridging pages 5 and 6, with the following amended paragraph:

Furthermore, the invention according to claim 3 is directed to an electric motor control apparatus constituted by speed detecting means for detecting an electric motor speed, a mechanism for transmitting a driving torque from an electric motor to a load through a driving shaft which is provided on the load side of the electric motor and has a low torsional rigidity, and a control device for feeding back an electric motor mean speed N_{MAVG} obtained by a calculation for a mean value every constant cycle for an electric motor speed detection signal detected by a speed detector for a speed command N_{REF} and calculating a deviation signal, and controlling a current of the electric motor in order to have an electric motor torque in accordance with a torque command signal T_{RFA} obtained by amplifying the deviation signal by speed control means having a proportional gain and an integrator or only the proportional gain, comprising inertia control means for calculating and outputting an inertia control signal T_{MJC} by an inertia controller from an electric motor acceleration torque signal T_{MAFB} obtained by multiplying a signal acquired by differentiating the electric motor mean speed signal N_{MAVG} by an inertia time constant τ_M of the electric motor portion, electric motor acceleration torque control means having a proportional gain and an integrator for calculating a torque command compensation signal T_{RFL} from a deviation signal of a signal T_{RFAX} obtained by decreasing the electric motor inertia control signal T_{MJC} from the torque command signal T_{RFA} to be an output signal of the speed control means and the electric motor acceleration torque signal T_{MAFB}, and electric motor torque control means for controlling a current of the electric motor in order to obtain an electric motor torque in

accordance with a torque command T_{RFM} to be a sum of ~~the torque command signal T_{RFA} to be an output signal of the speed control means~~ the electric motor acceleration torque command T_{RFAX} and the torque command compensation signal T_{RFL} to be an output signal of the electric motor acceleration torque control means.

Please replace the first full paragraph on page 12, with the following amended paragraph:

Referring to the operation of an electric motor acceleration torque controller 25, next, the output signal T_{MAFB} of the electric motor acceleration torque calculator 24 is fed back as the acceleration torque signal of the electric motor in response to the electric motor acceleration torque command signal T_{RFAX}. When a deviation between the two signals is input to the electric motor acceleration torque controller 25, the electric motor acceleration torque controller 25 outputs a signal T_{RFL} obtained by adding a signal acquired by multiplying the signal of the deviation between the two signals by a proportional gain G_1 and a signal acquired by integrating the signal in a time constant τ_{L1} is output to carry out a control in such a manner that the electric motor acceleration torque signal T_{MAFB} is coincident with ~~the torque command signal T_{RFA} of the output of the speed controller 11~~the electric motor acceleration torque command T_{RFAX}.